What is claimed is:

1. A system for positioning a stent at a bifurcation in the vasculature of a patient, which comprises:

a catheter, said catheter being steerable for advancing said catheter through the vasculature;

an expandable means mounted on said catheter and engageable with the stent for selectively holding the stent on said catheter and releasing the stent therefrom;

a transceiver mounted on said catheter at a predetermined location relative to said engageable means;

a means for activating said transceiver to radiate a signal therefrom toward a vessel wall in the vasculature, and to receive said signal as a return signal after reflection thereof from the vessel wall; and

an extracorporeal means for evaluating said return signal to determine a spatial relationship between the stent and the bifurcation for positioning the stent at the bifurcation.

2. A system as recited in claim 1 further comprising a guidewire, said guidewire being pre-positioned in the vasculature across the bifurcation and said catheter being engageable with said catheter for steering said catheter through the vasculature.

3. A system as recited in claim 1 wherein said transceiver is an ultra-sonic transducer.

4. A system as recited in claim 3 wherein said ultrasonic transducer comprises a plurality of crystals for radiating a respective plurality of said signals and for receiving a respective plurality of said return signals, and further wherein said catheter defines an axis and said plurality of crystals are arranged as an annulus in a plane substantially perpendicular to the axis of said catheter.

5. A system as recited in claim 1 wherein the bifurcation is an aortic-ostium.

6. A system as recited in claim 1 wherein the expandable means is a balloon.

7. A system as recited in claim 6 wherein said balloon is moveable between a deflated configuration and an inflated configuration, and wherein the stent is released from said balloon when said balloon is moved from its inflated configuration to its deflated configuration.

8. A system for positioning a stent at a bifurcation in the vasculature of a patient, the stent having a distal end and a proximal end, said system comprising:

a catheter, said catheter being steerable for advancing said catheter through the vasculature;

an inflatable balloon mounted on said catheter and reconfigurable between a deflated configuration for engaging the stent for an advancement through the vasculature and an inflated configuration for releasing the stent from the balloon; and

a plurality of individually activatable, acoustic transducer crystals, each said crystal mounted on said catheter at an end of the stent for radiating an acoustic signal toward a vessel wall in the vasculature, receiving a reflected acoustic return signal therefrom, and converting said acoustic return signal to an electrical signal indicative of a spatial relationship between the stent and the bifurcation to allow the positioning of the stent at the bifurcation.

9. A system as recited in claim 8 further comprising a guidewire, said guidewire being pre-positioned in the vasculature across the bifurcation and said catheter being engageable with said catheter for steering said catheter through the vasculature.

10. A system as recited in claim 8 wherein said catheter defines an axis and said plurality of crystals are arranged as an annulus in a plane substantially perpendicular to the axis of said catheter.

11. A system as recited in claim 8 wherein the bifurcation is an aortic-ostium.

12. A method for positioning a stent at a bifurcation in the vasculature of a patient, which comprises the steps of:

providing a catheter having an expandable means mounted thereon, and a transceiver mounted thereon at a predetermined location relative to the expandable means;

engaging the stent with the expandable means to selectively hold the stent on the catheter;

steering the catheter through the vasculature with the stent thereon;

activating the transceiver to radiate a signal therefrom toward a vessel wall in the vasculature, and to receive the signal as a return signal after reflection thereof from the vessel wall; and

evaluating the return signal to determine a spatial relationship between the stent and the bifurcation for positioning the stent at the bifurcation.

13. A method as recited in claim 12 wherein said activating step is accomplished periodically.

14. A method as recited in claim 12 wherein said steering step further comprises the steps of:

pre-positioning a guidewire in the vasculature across the bifurcation; and

engaging the catheter with the guidewire to steer the catheter through the vasculature.

15. A method as recited in claim 12 wherein the transceiver is an ultra-sonic transducer.

16. A method as recited in claim 12 wherein the bifurcation is an aortic-ostium.

17. A method as recited in claim 12 wherein the expandable means is a balloon.

18. A method as recited in claim 17 wherein the balloon is moveable between a deflated configuration and an inflated configuration, and wherein said engaging step is accomplished with the balloon in its deflated configuration.

19. A method as recited in claim 18 further comprising the step of releasing the stent from the balloon when the stent is properly positioned at the bifurcation.

20. A method as recited in claim 19 wherein said releasing step is accomplished by moving the balloon from its inflated configuration to its deflated configuration.